## REMARKS

Claims 1-13, 15-29, 32-35,and 41-51 are currently pending. The Applicants appreciatively note that the Examiner has withdrawn the anticipation and the obviousness rejections presented in the last Office Action. The Examiner maintains an enablement rejection and asserts a new lack of claim clarity rejections as listed here in the order in which they are addressed:

I. Claims 1-13, 15-29,32-35, and 41-51 are rejected under 35 USC §112, ¶1 as allegedly failing to comply with the enablement requirement.

II. Claim 51 is rejected under 35 USC § 112, ¶ 2 as allegedly being indefinite.

### I. Claims 1-13, 15-29, 32-35, and 41-51 Are Enabled

The Examiner rejects Claims 1-13, 15-29, 32-35, and 41-51 because:

> ... the specification ... does not reasonably provide enablement for a transgenic non-human mammal ...

*Office Action pg. 2.* The Examiner maintains this rejection from the previous Office Action despite the fact that the Applicants previously argued that: i) one having ordinary skill in the art would be aware of the many reports in the art regarding the use of salivary regulatory genes to express proteins in a transgenic animal; ii) the specification discloses numerous salivary promoters and regulatory sequences that one having ordinary skill in the art could easily obtain; and iii) that the prophetic examples are sufficiently enabling in view of the specification. On each point, the Examiner stated that the arguments were not persuasive. The Examiner's conclusion is weakly premised upon the speculative remarks within Samuelson that some salivary gland promoters may have limitations. The Examiner, therefore, considers the use of any salivary promoter construct to be unpredictable.

Each of the Examiner's arguments to the above points are primarily based upon an alleged lack of detail in the specification regarding the explicit disclosure of salivary promoters and/or regulator genes that are capable of expressing a transgenic polypeptide; for example:

> ... the guidance ... does not correlate to use of any particular saliva specific regulatory element ...

*Office Action pg. 3*, or

> ... the guidance ... does not even disclose which saliva regulatory elements could be used ...

*Office Action pg. 3*, and

> ... the specification ... failed to disclose the actual nucleotide sequences ...

*Office Action pg. 4.* In each of the above cases, the Applicants have clearly pointed to numerous non-patent references cited within the specification that are incorporated by reference showing the state of the art. The Examiner has not recognized this and insists that the teachings within these references are essential and cannot be incorporated by reference.

The Applicants disagree. Nonetheless, without acquiescing to the Examiner's argument but to further the prosecution, and hereby expressly reserving the right to prosecute the original (or similar) claims, Applicants now provide data to show the Examiner that, in fact, by using the specification's teachings one can construct a transgenic goat that secretes an exogenous polypeptide into the saliva. See, 37 CFR §1.132 "Declaration of Dr. J. Erickson (hereinafter, "The Erickson Declaration"). The Examiner should note that the data presented in this Declaration are consistent with the pending claims.

The data presented in "The Erickson Declaration" demonstrate that a mammal (i.e., for example, a female goat or dam) fibroblast can be transfected with a plasmid vector comprising an exogenous protein and using the transfected fibroblast in somatic cell nuclear transfer techniques thereby giving birth to a doe that expresses the transgene and secretes the exogenous protein into saliva. In this case, the exogenous protein was human serum albumin (hSA) whose nucleic acid (as well as the promoter nucleic acid) was identified in epithelial skin samples of the transgenic doe. See, The Erickson Declaration, Figure 4 and ¶ 5.

The promoter construct utilized in the transfection comprises a bovine salivary protein gene (i.e., for example, bSP30a) which is a major salivary protein having the following exemplary support in the Applicants' specification:

> Particularly useful regulatory regions for expression in saliva are promoters that are active in cells of salivary glands and other tissues that secrete into saliva, in particular in this regard in parotid gland sells that secrete into saliva, especially epithelial cells of parotid glands that secrete polypeptides into saliva, particularly, as set out elsewhere herein, in animals that produce large amounts of saliva, particularly in monogastric ruminant animals ... very especially bovine animals.

*Applicant's Specification, pg 33 ln 7-12,* and

> In particular in this regard, expression control regions from the gene for parotid secretory proteins ("PSP") generally are suitable to engineer salivary-gland specific gene expression, in the manner Mikkelsen and so-workers used control regions from the gene for mouse PSP ("moPSPW) to engender parotid-specific transgenic expression in mice. ... The general organizational schema of the transcription control regions necessary and sufficient for specific and efficient transgenic expression in salivary gland cells in mice fits the general organizational model of transcription control regions of other genes with tissue-specific patterns of expression. Accordingly, the PSP paradigm for salivary gland-specific expression in mice can be followed to isolate the genetic elements for efficient, salivary gland-specific expression in other animals.

*Applicant's Specification, pg 27 ln 6-29.* The Applicants also provide evidence that bSP30a was known at the time of the International Filing date of the Applicants' Specification as being in the same family as parotid secretory proteins (PSPs):

> The expression of both BSP30a and BSP30b is restricted to salivary tissue, but within this tissue they have distinct patterns of expression. The proximity of the human genes coding for the PSP ... similar amino acid sequence, and common exon segmentation strongly suggest that these genes evolved from a common ancestral gene.

Wheeler et al., "The BSP30 salivary proteins from cattle, LUNX/PLUNC and von Ebner's minor salivary gland protein are members of the PSP/LBP superfamily of proteins" *Biochim Biophys ACTA* 1579:92-100 (2002) [emphasis added].

In support of this specification disclosure, the Applicants have provided details of both promoter construction as well as the necessary polymerase chain reaction primers. See, The Erickson Declaration, Figures 1-3 and ¶ 3-4. Western Blot analysis was then performed to verify that hSA was, in fact, secreted into the newborn transgenic doe saliva. After staining with either Commassie Blue and/or a mouse monoclonal hSA anti-body coupled to horseradish peroxidase, the data clearly demonstrates that the hSA is secreted into the transgenic doe's saliva. See, The Erickson Declaration, Figures 5-8 and ¶ 6-8.

The Applicants argue that the present data confirms that the teachings within the specification are sufficient to provide enablement for the claimed embodiment. The Examiner is further requested to note the addition of new Claims 52-56 exemplifying The Erickson Declaration.

The Examiner is now respectfully requested to withdraw the rejection and allow the pending claims.

## II. Claim 51 Is Not Indefinite

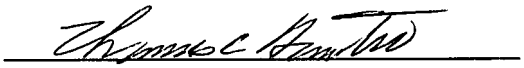
The Examiner rejects Claim 51 by alleging that "It is not clear that the genome which is a component of a cell to comprise a plurality of cells." *Office Action pg. 9.* The Applicants disagree. Nonetheless, without acquiescing to the Examiner's argument but to further the prosecution, and hereby expressly reserving the right to prosecute the original (or similar) claims, Applicants have amended Claim 51 to recite that a genome "is derived from" a plurality of cells. This amendment is made not to acquiesce to the Examiner's argument but only to further the Applicant's business interests, better define one embodiment and expedite the prosecution of this application.

The Applicant respectfully requests that the Examiner withdraw the present rejection.

## CONCLUSION

The Applicant believes that the arguments and claim amendments set forth above traverse the Examiner's rejections and, therefore, request that all grounds for rejection be withdrawn for the reasons set above. Should the Examiner believe that a telephone interview would aid in the prosecution of this application, the Applicant encourages the Examiner to call the undersigned collect at 617.984.0616.

Dated: September 26, 2007

By: 

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